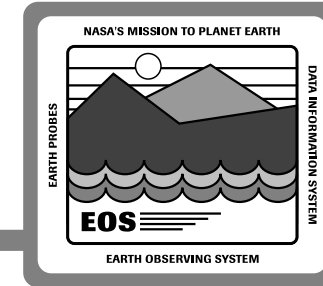


From ECS to GCDIS / UserDIS

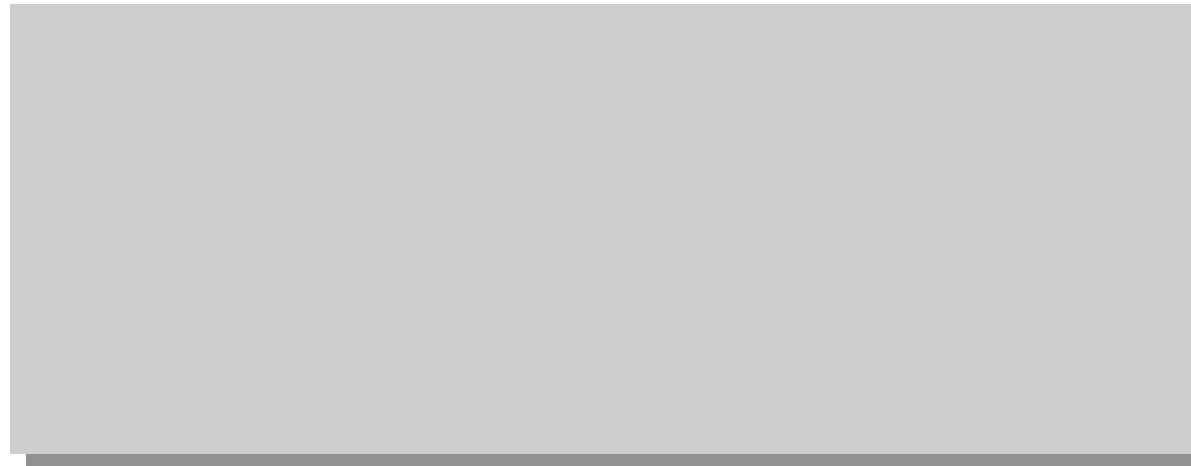
Richard Meyer

13 - 14 December 1993

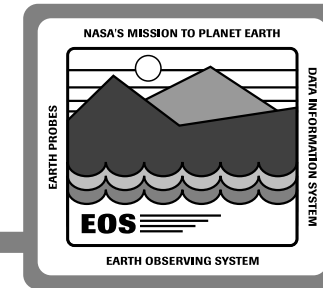
GCDIS/userDIS Challenges



- **Subtle And Not So Subtle Differences In Requirements**
- **Different Trade-Off Perspectives And Behavior**
- **Issues Of Reuse Outside Project:**
 - **Different System Context**
 - **Different Engineering Groups**
 - **Attracting Reuse**

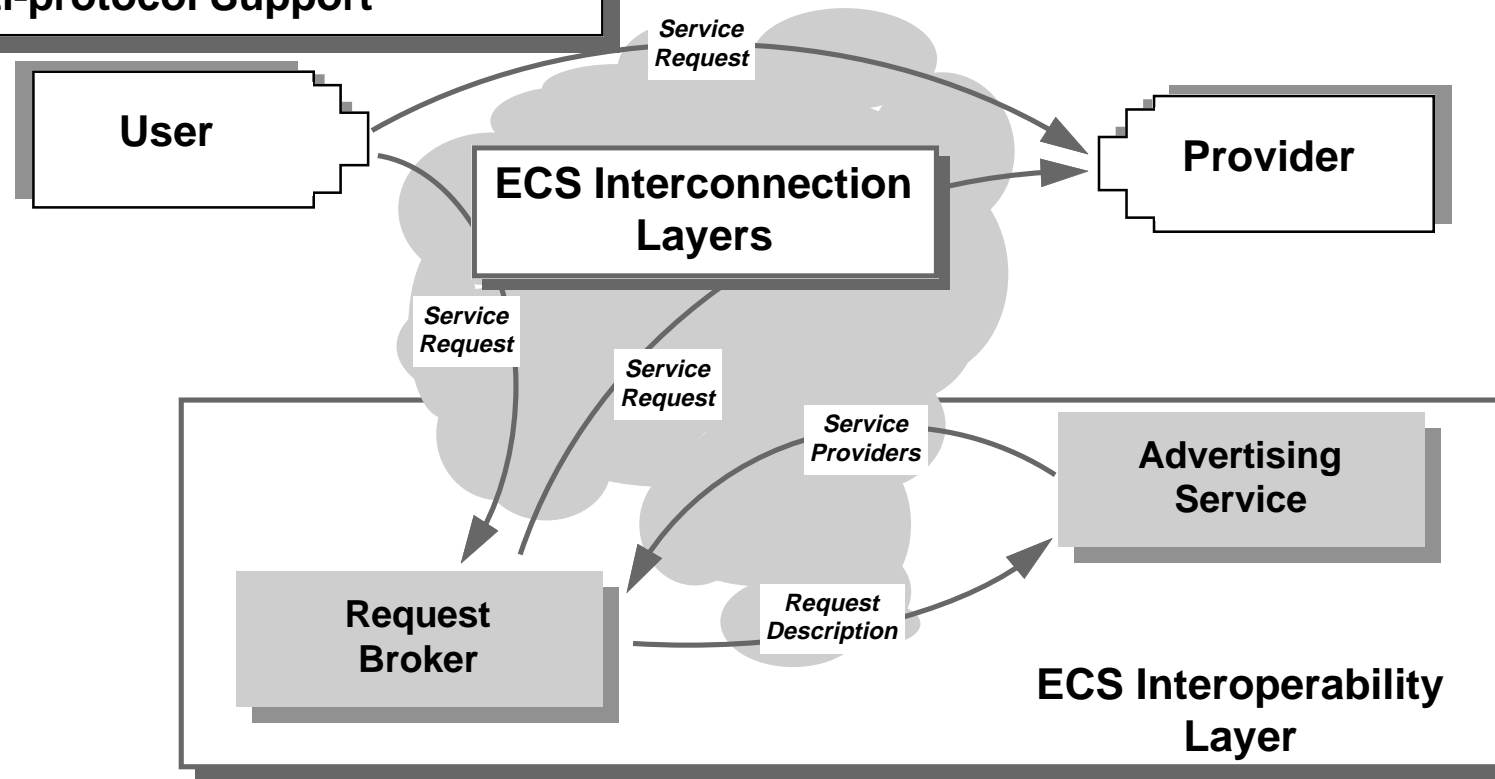


Interconnection & Interoperation

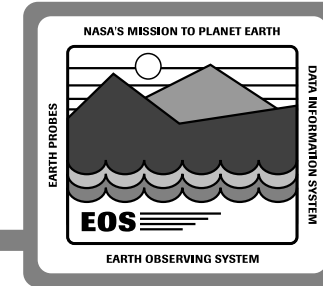


ECS Contribution

- Interoperability Infrastructure
- Interconnection Layers
- Multi-protocol Support



Interconnection & Interoperation



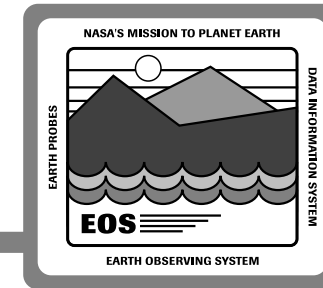
GCDIS/userDIS Needs Satisfied By ECS Evolution

- **Bandwidth, Quality Of Service Guarantees**
- **Multicast, Real-Time Continuous Transfers**
- **Heterogeneous Naming**
- **Advances In Interoperability Support**

GCDIS / userDIS 'Uniques'

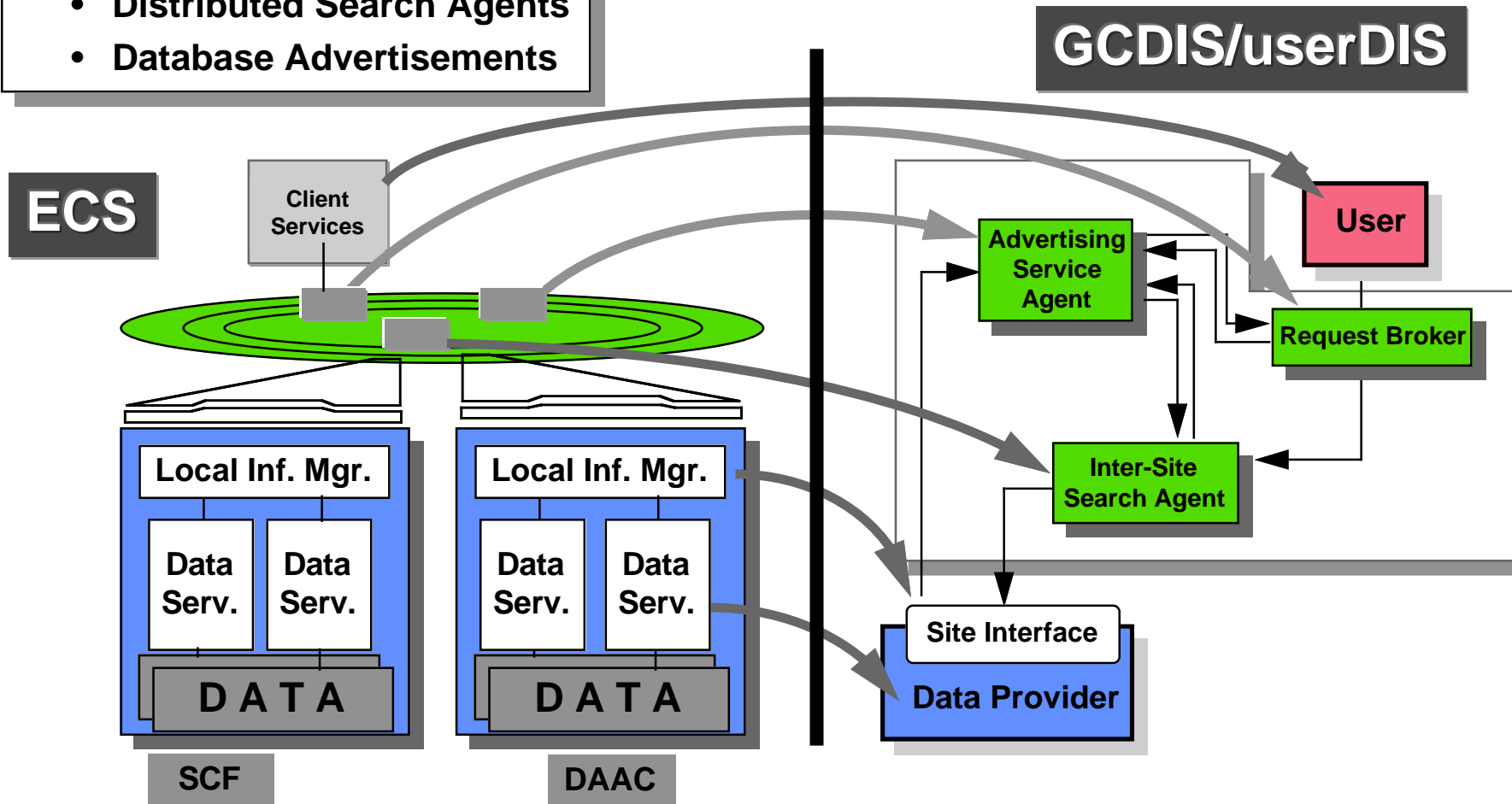
- **Much More Heterogeneity (Unknown Targets)**
- **Very Low-end, Low-cost Connectivity**

Distributed Information Management

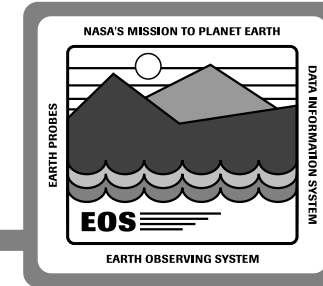


ECS Contribution

- Distributed Search Agents
- Database Advertisements



Distributed Information Management



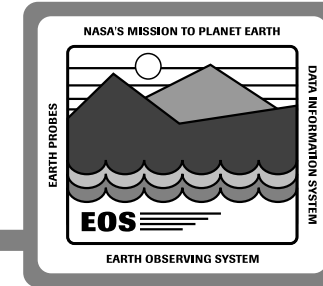
GCDIS/userDIS Needs Satisfied By ECS Evolutions

- **New Data Types ('Data Type Servers')**
- **Content Based Searching**
- **Advanced Search Capabilities (e.g., Support 'Vocabularies')**

GCDIS / userDIS 'Uniques'

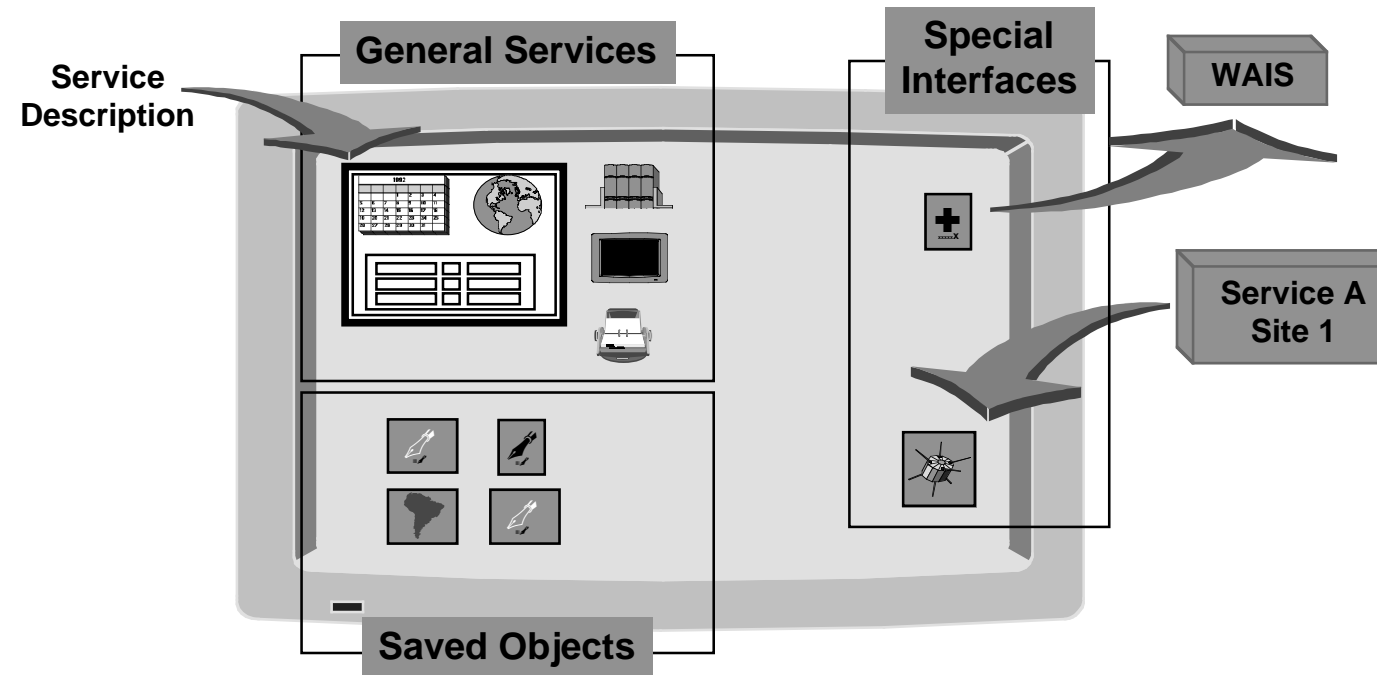
- **Availability, Reliability, Data Relevance Issues**
- **Reliability / Availability Of 'System Data'**
- **Much More Heterogeneity**

Service Interfaces

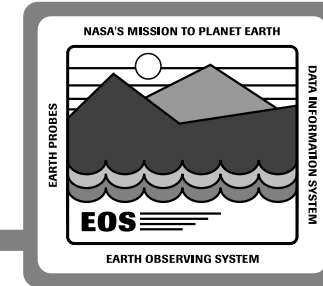


ECS Contribution - "Earth Science Desktop"

- Interface To ECS-Like Services
- Interface To Objects Produced By Services
- Internet Services Interface



Service Interfaces



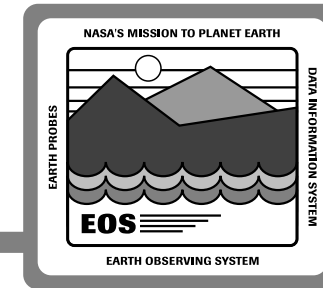
GCDIS/userDIS Needs Satisfied By ECS Evolution

- **Configurability ('Service Description')**
- **Adding New 'Services' And 'Objects'**
- **Accommodation Of Special Interfaces**

GCDIS / userDIS 'Uniques'

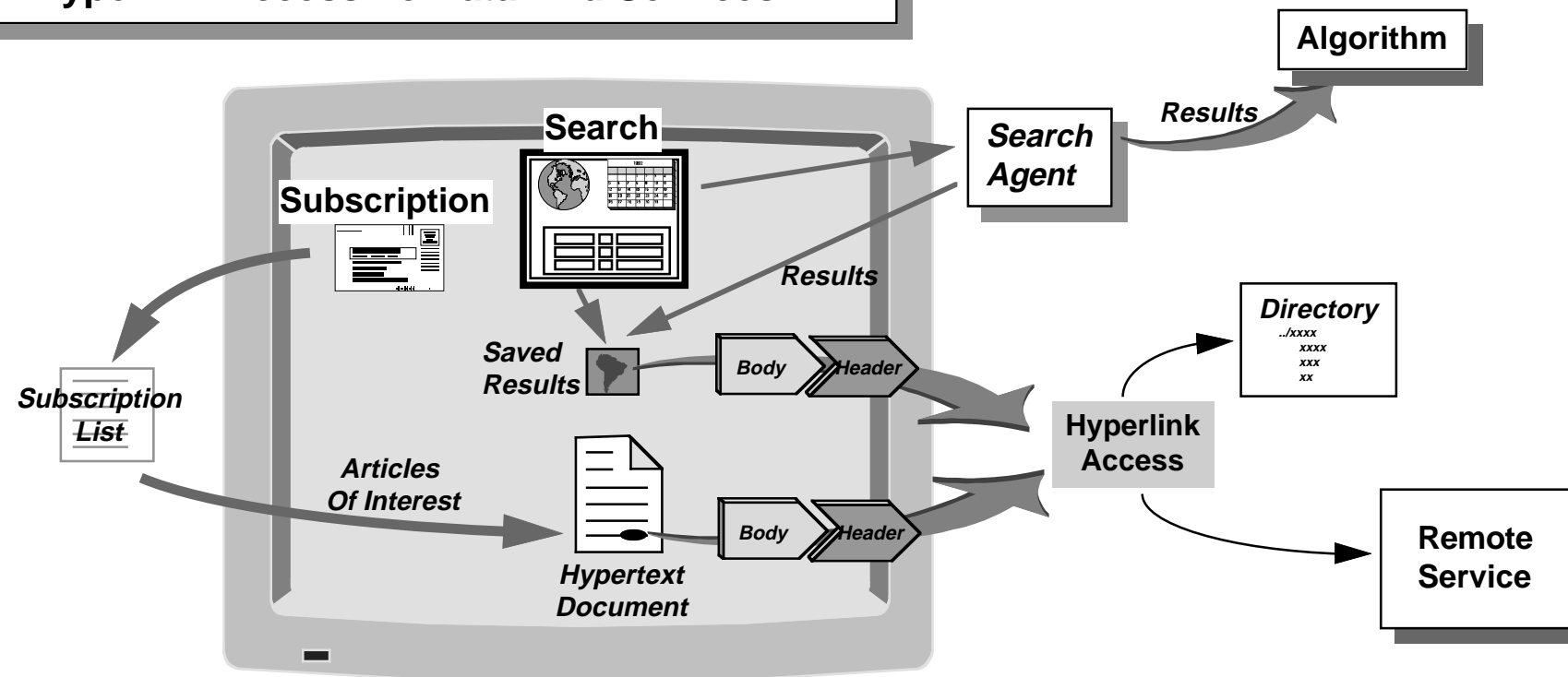
- **(Re-)Usability Issues**
 - **More User Interface Paradigms**
 - **Different User Communities, Needs, Tool Environments**
- **No Precise Targets**

Data Access And Hyperlinks

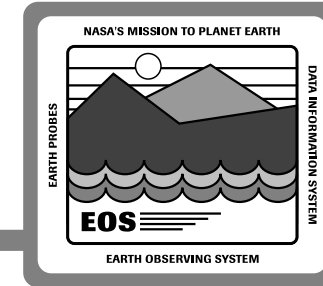


ECS Contribution

- Direct Channel To Data
- Universal Support For A Universal Reference
- Hyperlink Access To Data And Services



Data Access And Hyperlinks



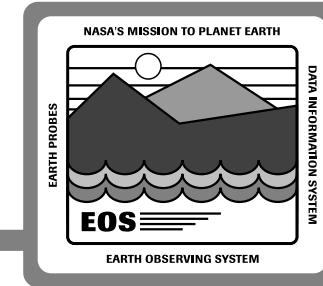
GCDIS/userDIS Needs Satisfied By ECS Evolution

- **Hyperlink Support In Data Browsing And Other Services**
- **Extension to Multi-Media & Collaboration Support**

GCDIS / userDIS 'Uniques'

- **Direct Channels Across Unreliable, Heterogeneous Networks**
- **How Universal Is The Universal Reference?**

From ECS To GCDIS/userDIS



ECS Can Provide GCDIS/userDIS Components For

- **Site-to-Site Interoperation**
- **Data Providers and Users**

ECS Evolution Generally Fits GCDIS/userDIS Needs

Impact Of 'Uniques' On Trades Needs To Be Carefully Studied

- **Some ECS Components May Need Further Break-Up**
- **Supporting Low End Of Capacity/...ility Scale May Affect Cost Equation**

Challenges Remain

- **Will Need GCDIS/UserDIS Policy Input**